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EXAMINER

MOORE, IAN N

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/701,865	<b>Applicant(s)</b> KUBLER ET AL.	
	<b>Examiner</b> IAN N. MOORE	<b>Art Unit</b> 2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 22-73 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-73 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/5/08</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/5/2008 has been entered.

### ***Response to Arguments***

2. Applicant's arguments filed 1-9-2008 have been fully considered but they are not persuasive.

**Regarding claims 22-73, the applicant argued that, "...Richter is not valid prior art...**the applicants have not been provided with "...such information and references as may be useful in judging of the propriety of continuing the prosecution of this application..." as required under 35 U.S.C 132...applicant request the examiner identify the relevant portion of M.P.E.P that **guarantee** that the disclosure of any continuation application is "identical" to the disclosure of the corresponding parent application..." in page 14-18

**In response to applicant's argument, the examiner respectfully disagrees** with the argument above.

Applicant is challenging the **validity** of the granted Richter patent, by auguring that there is no guarantee that disclosures of any continuation application is identical/same as corresponding parent application. Since all patents issued by USPTO are presumed to be valid,

the disclosures of continuation Richter patent is identical/same as corresponding parent application. Since Richter is a valid patent, **examiner is not required to provide the abandon parent application of this instant continuation patent because they are identical/same.**

If applicant wishes to receive a copy of the abandon parent application, USPTO provides a copy of the abandon application for a fee. If applicant still believes they are not the same/identical, examiner requests the applicant to provide evidence that show the differences by obtaining a copy of the abandon parent application.

(1) 35 U.S.C 132 (a) does not disclose or suggest the examiner to provide a parent application of a CONTINUED child case, and "continuing the prosecution of his application" is not "continuation of prior art application".

In particular, **35 U.S.C 132 (a)** recites as follows:

Whenever, on examination, any claim for a patent is rejected, or any objection or requirement made, the **Director shall notify the applicant thereof, stating the reasons for such rejection, or objection or requirement, together with such information and references as may be useful in judging of the propriety of continuing the prosecution of his application**; and if after receiving such notice, the applicant persists in his claim for a patent, with or without amendment, the application shall be reexamined. No amendment shall introduce new matter into the disclosure of the invention. (Emphasis added)

(2) The effective filing data for this instant application is October 5, 1995. Richter patent U.S. Patent to Richter (US006104706A), hereinafter refers Richter Patent, is based on DOMESTIC CONTINUATION of non-provisional application 08/073,956, filed on June 9, 1993. Thus, it is clear that Richter patent is a valid Patent prior art. Since Richter patent is based on DOMESTIC CONTINUATION of non-provisional application 08/073,956, filed on June 9,

1993, the entire disclosure of Richter patent is identical or “same” to non-provisional application 08/073,956, filed on June 9, 1993.

**MPEP section 201.07** recites as follows:

A continuation is a second application for the same invention claimed in a prior nonprovisional application and filed before the original prior application becomes abandoned or patented. The continuation application may be filed under 37 CFR 1.53(b) (or 1.53(d) if the application is a design application). The applicant in the continuation application must include at least one inventor named in the prior nonprovisional application. **The disclosure presented in the continuation must be the same as that of the original application; i.e., the continuation should not include anything which would constitute new matter if inserted in the original application.** The continuation application must claim the benefit of the prior nonprovisional application under 35 U.S.C. 120 or 365(c). (Emphasis added)

**CFR 1.53 (d)(ii)** recites as follows:

(d) (2) The filing date of a continued prosecution application is the date on which a request on a separate paper for an application under this paragraph is filed. An application filed under this paragraph:

- (i) Must identify the prior application;
- (ii) **Discloses and claims only subject matter disclosed in the prior application;**  
(emphasis added)

**35 U.S.C. 120** recites as follows:

**An application for patent for an invention disclosed in the manner provided by the first paragraph of section 112 of this title in an application previously filed in the United States,** or as provided by section 363 of this title, which is filed by an inventor or inventors named in the previously filed application shall have the same effect, as to such invention, as though filed on the date of the prior application, if filed before the patenting or abandonment of or termination of proceedings on the first application or on an application similarly entitled to the benefit of the filing date of the first application and if it contains or is amended to contain a specific reference to the earlier filed application. (emphasis added)

Thus, in view of the above it is clear that Richter patent is a valid prior art since Richter patent discloses the same disclosure as that of the original application (08/073,956).

**Regarding claims 22-59, the applicant argued that,** “...the proposed combination fails to teach, suggest or discloses... *“wherein the digital voice packets comprise destination information for routing the digital voice data packets”* as recited in claims 22,28, *“wherein the digital voice packets comprise destination information for routing the digital voice data packets through the communication network”* as recited in claim 29...*“wherein the digital voice data is packetized according to a packet protocol comprising destination information used for routing the digital voice data packetized according to the packet protocol through the communication network”* as recited in claim 36; *“wherein the digital voice packets comprise destination information for routing the digital voice data packets”* as recited in claim 47; *“wherein the digital voice packets comprise destination information for routing the digital voice data packets through the network...according to a packet protocol”* as recited in claim 51 ... claims do not recite “voice packet that comprises control information...claim recite “destination information” ...disagree with the statement that the terms “packet” and “frame” have identical functionality...the term “packet” defined as “...a unit of information transmitted as whole from one device to another on a network”...all information in the frame of Berken is not part of “a unit of information transmitted as a whole from one device to another” in accordance with term of packet...Berken fails to teach anything about packet preamble or packet header portion of a time slot...office fails to show where the Richter reference remedies the short coming of Berken...propose combination of Berken and Richter fails to render claims unpatentable because Richter is not valid prior art...” in pages 18-25.

**In response to applicant's argument, the examiner respectfully disagrees** with the argument above since the combined system of Berken and Richter discloses the claimed invention as detailed below.

**All the responses from the previous action to applicant's arguments on the same issue are hereby incorporated.**

Berken discloses wherein the digital voice data packets comprises information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header/preamble of the voice time slot) used for routing the digital voice data packets (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises control information for routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises control information routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN).

Richter teaches wherein the digital voice data packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see col. 6, line 60 to col. 7, line 20) the digital voice packets through the communication network (see FIG. 5, for routing voice packets over the network between two callers; see col. 5, line 36-66; col. 6, line 44-56).

**In response to applicant's arguments** against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, the rejection is based

on the combination of Berken and Richter, and one must consider the combined system as a whole. Thus, arguing on based a particular reference is clearly an error and invalid.

**In response to applicant's arguments** on control information and destination information, examiner is asserting that Berken disclose "voice packet comprises control information" or "packet header/preamble", and Richter discloses specific control information or specific content information in the header/preamble which is "destination" information. Thus, when consideration the combined system of Berken and Richter, it discloses the claimed invention of "the voice packet comprises destination information used for routing the digital voice data packets" as set forth below in the rejection.

**In response to applicant's arguments** "packet" vs. "frame" of Berken, examiner disagrees with applicant argument.

**First, in response to applicant's argument** that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., *a unit of information transmitted as whole from one device to another on a network*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In fact, neither applicant specification nor the broadly recites any specific definition of a packet. Thus, the argument based on unclaimed and undisclosed limitation is irrelevant.

**Second, even if the definition of the claimed in recited in the claim**, the combined system of Berken and Richter still disclosed it. In particular, examiner asserting a frame that contains a control time slot and voice packet time slot (see Berken FIG. 2-3) to applicant's voice packet that



comprises control information for routing. Berken FIG. 2, clearly shows that multiple time slots 1-M within a frame, which also confirms examiner's assertion stated above. Thus, it is also clear that Berken **voice packet unit is transmitted as a whole from user device to base device** (see Berken FIG. 1-3). Also, Richter also discloses the digital voice packet comprising destination information as set forth below.

Applicant broadly claimed invention of "digital voice packets ...**comprise** destination information used for routing" is disclosed Berken in two alternate scenarios:

In first scenario, a digital voice frame that comprises a digital voice time slot and a control time slot (see FIG. 2), and the control time slot comprise routing/transmitting/sending information such as address, control information and signaling information of the digital voice data so that the digital voice packet is distinguished and recover at the receiving side, which is the fundamental concept of the wireless communication. Otherwise, it is impossible to recover the wireless" digital voice data, or

In second scenario, a voice time slot/packet that comprises a digital voice packet data/information and packet preamble/packet header (FIG. 4), and the packet header/preamble comprise routing/transmitting/sending information such as address, control information and signaling information of the digital voice packet data/information so that the digital voice packet is distinguished and recover at the receiving side.

**In response to argument**, on a header of the voice of the voice slot of Berken, a voice packet time slot contains packet header (see Berken FIG. 4) which also contains control information for routing/switching voice packets to applicant's voice packet that comprises control information for routing.

**In response to applicant's argument** that it is not obvious, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this case, examiner is using the teaching of Richter to provide Berken, not moodily incorporation Richter into Berken.

**Regarding claims 43-46, the applicant argued that**, "...the proposed combination of Berken and Harrison does not teach or suggested "the digital voice data packets comprises destination information ...thought the network"...a prima facie case of obviousness has not been established and that the proposed combination of Berken and Harrison does not render applicant claim 43 unpatentable..." in page 25-29.

**In response to applicant's argument, the examiner respectfully disagrees** with the argument above since the combined system of Berken and Harrison disclosed the claimed invention.

Berken discloses wherein the digital voice data packets comprises information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header of the voice time slot) used for routing the digital voice data packets (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises control information for routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises control information routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN)

Harrison teaches wherein the digital voice packets (see col. 4, line 45-49; 65 to col. 5, line 7; packets of voice data) comprise destination information used for routing the outgoing digital voice packets (see FIG. 5; MS adding destination address into packet for routing through network (see FIG. 1); see col. 6, line 5-12; see col. 7, line 35 to col. 8, line 15; see col. 12, line 39 to col. 13, line 11); a media access controller (see col. 5, line 25-31; MAC) for controlling the operation of the transceiver to transmit and receive information according to a wireless communication protocol (see col. 12, line 39-61; MAC controls/process transmit and receive information according to IEEE wireless protocol).

**In response to applicant's arguments** against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, the rejection is based on the combination of Berken and Harrison.

**In response to applicant's argument** that, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this case, Berken discloses the digital voice data packets comprise control information and Harrison discloses wherein the digital voice packet comprises destination information used for routing the outgoing digital voice packets. Thus, Berken control information has been modified with the teaching of Harrison.

**Regarding claims 43-46, the applicant argued that,** "...Weaver references...without any explanation of how and why a stream of information...would be recognized by one of ordinary skill in the art as teaching "information used for routing the digital voice data packets"... a prima facie case of obviousness has not been established and that the proposed combination of Weaver and Harrison does not render applicant claim 43 unpatentable..." in pages 28-29.

**In response to applicant's argument, the examiner respectfully disagrees** with the argument above since the combined system of Weaver and Harrison disclosed the claimed invention.

**In response to applicant's arguments** against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In particular, Weaver FIG. 1, discloses the digital voice packets are being routed over the network. FIG. 3, PCM signaling/control information which is used for routing the digital voice packets. FIG. 4, PCM signaling/control information (PCM 290,292) used for routing the digital voice packets (Vocoded packets 294); see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65). Thus, it is clear that Weaver discloses information used for routing the digital voice data packets. Moreover, Harrison also teaches wherein the digital voice packets (see col. 4, line 45-49; 65 to col. 5, line 7; packets of voice data) comprise destination information used for routing the outgoing digital voice packets (see FIG. 5; MS adding destination address into packet for routing through network (see FIG. 1); see col. 6, line 5-12; see col. 7, line 35 to col. 8, line 15; see

col.12, line 39 to col. 13, line 11). Thus, it is clear that the combined system of Weaver and Harrison clearly discloses the broadly claimed invention.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 22,25,26,28,29,32-34,36,39,40,41,47,50, and 57-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken (WO 91/08629) in view of Richter (US006104706A).

**Regarding Claims 22, 28, 29, 36 and 47**, Berken discloses a system for processing voice for communication over a network (see FIG. 1A, wireless telecommunication system for voice and data communication; see page 4, line 6-9) comprising:

conversion circuitry (see FIG. 1C, phone interface 209) for converting analog voice signals to digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice packets; see page 6, line 16-20) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1C, phone interface 209 converts received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5);

a processing circuit (see FIG. 1C, a combined system of processor 215, switch 213, phone 209) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1C, a combined system 215,213,209 controls/manages converting of voice data

to digital voice packets; see page 6, line 5-20) and for managing the depacketization of digital voice data (see FIG. 1C, a combined system 215,213,209 controls/manages converting of received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5), the processing circuit packetizing the digital voice data according to a packet protocol (see FIG. 1C, a combined system 215,213,209 converting voice data in accordance with packet protocol/rule for transmission; see page 6, line 16-20); and

a transceiver circuit for wireless transmission and wireless reception (see FIG. 1A, C, Radio interface 211 circuitry/module which perform both transmitter and receiver functionalities) according to a wireless communication protocol of the digital voice data packets (FIG. 1C, see page 6, line 14-20; radio interface 211 of a user module 103 communicates by utilizing packet protocol/practice/procedure/rules), wherein the digital voice data packets comprises information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header of the voice time slot) used for routing the digital voice data packets (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises control information for routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises control information routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN).

Berken does not explicitly disclose “destination”.

However, voice packet comprising destination information for routing is so well known in the art so that it would identify and locate the recipient of the voice data packet. In particular, Richter teaches wherein the digital voice data packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count

72, and destination count that used for routing; see col. 6, line 60 to col. 7, line 20) the digital voice packets through the communication network (see FIG. 5, for routing voice packets over the network between two callers; see col. 5, line 36-66; col. 6, line 44-56).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination, as taught by Berken and well established teaching in art in the system of Berken, so that it would provide capability to the caller and callee to hear each other; see Richter col. 7, line 10-19, and it would also identify and locate the recipient of the voice data packet.

**Regarding Claims 25, 33,40,57,58 and 59**, Berken disclose a frequency hopping spread spectrum technique (see page 11, line 20-31; frequency hopping system of spread spectrum coding).

**Regarding Claims 26, 34, and 41**, Berken disclose a direct sequence spread spectrum technique (see page 11, line 20-31; direct sequence spread spectrum coding).

**Regarding Claims 32,39,50**, Berken discloses conversion circuitry for converting analog voice signals to digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice packets for radio transmission; see page 6, line 16-20) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1C, phone interface 209 converts digitized voice packets received from radio interface back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5).

5. Claims 43 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Harrison (US 5,796,727).

**Regarding Claim 43**, Berken discloses a system for processing voice for communication over a network (see FIG. 1A, wireless telecommunication system for voice communication; see page 4, line 6-9) comprising:

a processing circuit (see FIG. 1C, a combined system of processor 215, switch 213, phone 209) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1C, a combined system 215,213,209 controls/manages converting of voice data to digital voice packets; see page 6, line 6-20) and for managing the depacketization of digital voice data (see FIG. 1C, a combined system 215,213,209 controls/manages converting of received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5), the processing circuit packetizing the digital voice data according to a packet protocol (see FIG. 1C, a combined system 215,213,209 converting voice data in accordance with packet protocol/rule for transmission; see page 6, line 16-20); wherein the digital voice data packets comprises information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header of the voice time slot) used for routing the digital voice data packets (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises control information for routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises control information routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN);

a transceiver circuit for wireless transmission and wireless reception (see FIG. 1A, C, Radio interface 211 circuitry/module which perform both transmitter and receiver functionalities) according to a wireless communication protocol of the digital voice data packets



(FIG. 1C, see page 6, line 14-20; radio interface 211 of a user module 103 communicates by utilizing packet protocol/practice/procedure/rules).

Berken does not explicitly disclose "destination" and "a media access controller for controlling operation".

However, Harrison teaches wherein the digital voice packets (see col. 4, line 45-49; 65 to col. 5, line 7; packets of voice data) comprise destination information used for routing the outgoing digital voice packets (see FIG. 5; MS adding destination address into packet for routing through network (see FIG. 1); see col. 6, line 5-12; see col. 7, line 35 to col. 8, line 15; see col. 12, line 39 to col. 13, line 11); a media access controller (see col. 5, line 25-31; MAC) for controlling the operation of the transceiver to transmit and receive information according to a wireless communication protocol (see col. 12, line 39-61; MAC controls/process transmit and receive information according to IEEE wireless protocol).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide "destination information and MAC", as taught by Harrison in the system of Berken, so that it would ensure to establish and route the packets of voice data to destination end user, provide various classes of data communication services as well as voices services, and provide registration and channel/bandwidth allocation; see Harrison col. 3, line 22-26; see col. 4, line 50-55; see col. 7, line 35-55.

**Regarding Claim 46**, Berken discloses conversion circuitry for converting analog voice signals to digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice packets for radio transmission; see page 6, line 16-20) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1C,

phone interface 209 converts digitized voice packets received from radio interface back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5).

6. Claim 27,35,42,51 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Richter, and further in view of Weaver (US005956673A).

**Regarding Claim 51**, Berken discloses a system for processing voice for communication over a network (see FIG. 1A, wireless telecommunication system for voice communication; see page 4, line 6-9) comprising:

a processing circuit (see FIG. 1C, a combined system of processor 215, switch 213, phone 209) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1C, a combined system 215,213,209 controls/manages converting of voice data to digital voice packets; see page 6, line 6-20) and for managing the depacketization of digital voice data (see FIG. 1C, a combined system 215,213,209 controls/manages converting of received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5), wherein the digital voice data packets comprises destination information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header of the voice time slot) used for routing the digital voice data packets (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises routing/forwarding information through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises routing/forwarding information through PSTN, Ethernet LAN, or Token Ring LAN), the processing circuit packetizing the digital voice data according to a packet protocol (see FIG.

1C, a combined system 215,213,209 converting voice data in accordance with packet protocol/rule for transmission; see page 6, line 16-20); and

a radio for wireless transmission and reception (see FIG. 1A, C, Radio interface 211 circuitry/module which perform both transmitter and receiver functionalities) of digital voice data packets (FIG. 1C, see page 6, line 14-20; radio interface 211 of a user module 103 communicates by utilizing packet protocol/practice/procedure/rules) and

a processor (see FIG. 1C, processor 215) for controlling the operation of the radio according to a communication protocol (see FIG. 1A, controls/manage a radio transmission according to a radio protocol (i.e. TDMA); see page 10, line 23-33 for voice packet in PSTN or data packet in Ethernet LAN, or Token Ring LAN; see page 6, line 5 to page 8, line 4) that accommodates a plurality of bandwidth (see page 10, line 4 to col. 11, line 15; radio protocol provides different bandwidth for different services/data type).

Berken does not explicitly disclose “destination”.

However, voice packet comprising destination information for routing is so well known in the art so that it would identify and locate the recipient of the voice data packet. In particular, Richter teaches wherein the digital voice data packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see col. 6, line 60 to col. 7, line 20) the digital voice packets through the communication network (see FIG. 5, for routing voice packets over the network between two callers; see col. 5, line 36-66; col. 6, line 44-56).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination, as taught by Berken and well established teaching in art in the system of Berken, so that it would provide capability to the caller and callee to hear each other; see Richter col. 7, line 10-19, and it would also identify and locate the recipient of the voice data packet.

Neither Berken nor Richter explicitly discloses “data rates including at least a standard data rate and a higher data rate”.

Weaver discloses a processor (see FIG. 1, Encoder 180) for controlling the operation of the radio according to a communication protocol that accommodates a plurality of data rates (see col. 1, line 25-37; see col. 5, line 55-59; see col. 9, line 33-34; plurality of data rates) including at least a standard data rate and a higher data rate (see col. 1, line 25-37; see col. 6, line 13-25; see col. 9, line 33-35; low or less than full (i.e. half or quarter) data rate and full data rate).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide data rates including at least a standard data rate and a higher data rate, as taught by Weaver in the combined system of Berken and Richter, so that it would provide avoid the disadvantage of tandem vocoding; see Weaver col. 1, line 60-67.

**Regarding Claims 27,35,42**, Berken discloses wireless transmission and reception of digital voice data packets/transceiver utilizes a communication protocol (see FIG. 1A, controls/manage a radio transmission according to a radio protocol (i.e. TDMA); see page 10, line 23-33 for voice packet in PSTN or data packet in Ethernet LAN, or Token Ring LAN; see page 6, line 5 to page 8, line 4) that accommodates a plurality of bandwidth (see page 10, line 4 to col. 11, line 15; radio protocol provides different bandwidth for different services/data type).

Neither Berken nor Richter explicitly discloses “data rates including at least a standard data rate and a higher data rate”.

However, Weaver discloses a processor (see FIG. 1, Encoder 180) for controlling the operation of the radio according to a communication protocol that accommodates a plurality of data rates (see col. 1, line 25-37; see col. 5, line 55-59; see col. 9, line 33-34; plurality of data rates) including at least a standard data rate and a higher data rate (see col. 1, line 25-37; see col. 6, line 13-25; see col. 9, line 33-35; low or less than full (i.e. half or quarter) data rate and full data rate).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide data rates including at least a standard data rate and a higher data rate, as taught by Weaver in the combined system of Berken and Richter, so that it would provide avoid the disadvantage of tandem vocoding; see Weaver col. 1, line 60-67.

**Regarding Claim 54,** Berken discloses conversion circuitry for converting analog voice signals to digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice packets for radio transmission; see page 6, line 16-20) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1C, phone interface 209 converts digitized voice packets received from radio interface back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5).

7. Claims 23,24,30,31,37,38,48,49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Richter, and further in view of Perkins (US005159592A).

**Regarding Claims 23, 24,30,31,37,38,48,49**, neither Berken nor Richter explicitly discloses an Internet Protocol (IP), wherein IP protocol is TCP/IP. However, Perkins discloses wherein the wireless packet network uses an Internet Protocol (IP), wherein IP protocol is TCP/IP (see col. 4, line 10-20; see col. 7, line 35-56; col. 8, line 30-45; mobile unit 10 and access gateway utilizing TCP/IP).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide TCP/IP, as taught by Perkins, in the system of Berken, so that it would provide wireless migration users to a network operating in accordance with the TCP/IP protocol; see Perkins col. 2, line 55-60; see col. 3, line 15-30.

8. Claims 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Harrison, and further in view of Perkins (US005159592A).

**Regarding Claims 44 and 45**, neither Berken nor Harrison explicitly disclose an Internet Protocol (IP), wherein IP protocol is TCP/IP. However, Perkins discloses wherein the wireless packet network uses an Internet Protocol (IP), wherein IP protocol is TCP/IP (see col. 4, line 10-20; see col. 7, line 35-56; col. 8, line 30-45; mobile unit 10 and access gateway utilizing TCP/IP).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide TCP/IP, as taught by Perkins, in the combined system of Berken and Harrison, so that it would provide wireless migration users to a network operating in accordance with the TCP/IP protocol; see Perkins col. 2, line 55-60; see col. 3, line 15-30.

9. Claims 52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Richter and Weaver, and further in view of Perkins (US005159592A).

**Regarding Claims 52 and 53**, neither Berken, Richter nor Weaver explicitly discloses an Internet Protocol (IP), wherein IP protocol is TCP/IP. However, Perkins discloses wherein the wireless packet network uses an Internet Protocol (IP), wherein IP protocol is TCP/IP (see col. 4, line 10-20; see col. 7, line 35-56; col. 8, line 30-45; mobile unit 10 and access gateway utilizing TCP/IP).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide TCP/IP, as taught by Perkins, in the combined system of Berken, Richter and Weaver, so that it would provide wireless migration users to a network operating in accordance with the TCP/IP protocol; see Perkins col. 2, line 55-60; see col. 3, line 15-30.

10. Claims 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken and Richter, and further in view of Cripps (US005838730A).

**Regarding Claims 55 and 56**, Berken disclose a frequency hopping spread spectrum technique (see page 11, line 20-31; frequency hopping system of spread spectrum coding).

Berken does not explicitly disclose a frequency of approximately 2.4 gigahertz.

However, using 2.4 GHz frequency hopping is well known in the art as defined by FCC. In particular, Cripps discloses wherein the wireless packet network communicates at a frequency of approximately 2.4 gigahertz (abstract; see col. 2, line 13-20; see col. 36, line 32-45; 2.4 GHz).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide 2.4 GHz, as taught by Cripps, in the combined system of Berken and Richter, so that it would provide a transmitter/receiver in accordance with FCC rules for 2.4 GHz ISM which is low cost and low power; see Cripps col. 2, line 15-32.

11. Claims 60, 61, 62, and 68-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Hutton (US006108704A), and further in view of Reimer (U.S. 4,704,696).

**Regarding Claim 60**, Berken discloses one or more circuits for use in a handheld communication device supporting the exchange of voice over a communication network (see FIG. 1A, C, circuits/modules/components of wireless user device for voice communication in a network; see page 4, line 6-9), the one or more circuits comprising:

at least one interface to circuitry for transmitting and receiving over a radio frequency channel (see FIG. 1A, C, Radio interface 211 circuitry/module for both transmitting and receiving over an RF channel 107; see page 6, line 14-20; page 7, line 25-32), packets comprising packetized digital voice data packetized according to a packet protocol (see FIG. 1C, packets comprises packetized/converted voice data in accordance with packet protocol/rule for transmission; see page 6, line 16-20);

at least one processor (see FIG. 1C, a combined system of processor 215, switch 213, phone 209) operably coupled to the at least one interface (see FIG. 1C, couples to radio interface 211), the at least one processor operating to, at least,



convert analog voice signals at a first user location (see FIG. 1A, first User device; see FIG. 5, first user module UM1; see page 9, line 28-33) to first digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice data for packetizing; see page 6, line 16-20);

packetize the first digital voice data according to the packet protocol to produce first digital voice data packets (see FIG. 1C, phone interface 209 converts/packetize digital voice data into voice packets; see page 6, line 16-20), wherein the first digital voice data packets comprise information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header of the voice time slot) used for routing the first digital voice data packets through the communication network (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises information for routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises information for routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN);

wirelessly transmit, in accordance with a wireless communication protocol, the first digital voice data packets (see FIG. 1A,C, see page 6, line 14-20; the user module 103 transmits voice packets over radio channel 107 in accordance with radio protocol/practice/procedure/rule);

wirelessly receive, in accordance with the wireless communication protocol, second digital voice data packets (see FIG. 1A,C, see page 6, line 14-20; the user module 103 received voice packets from RF channel 107 in accordance with a radio protocol/practice/procedure/rule);

depacketize the second digital voice data packets to produce second digital voice data (see FIG. 1C, phone interface 209 depacketizes/converts digitized voice packets back into digitized voice data for the telephone 127; see page 5, line 28 to page 6, line 5); and

convert the second digital voice data to analog voice signals at the location of the first user (see FIG. 1C, phone interface 209 converts digitized voice data back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5).

Berken does not explicitly disclose “destination and to a second user”.

However, a user device sending voice packet to another user over the network is well known in the art. In particular, Hutton teaches the first digital voice data packets (see col. 3, line 55-61; see col. 4, line 19-25, 65 to col. 5, line 20; see col. 8, line 20-26; IP packet with compressed voice/audio data) comprise destination information (see FIG. 5-6, destination/callee IP address or phone number of second processing unit 22) used for routing the first digital voice data packets (see FIG. 3-4, destination IP address is used for routing the compressed audio data IP packets) through the communication network (see FIG. 3-4, routing through Internet 24) to a second user (see FIG. 3-4, to the remote user/callee user device at second processing unit 22); see col. 5, line 1-65; see col. 7, line 10-35; see col. 8, line 15-45; see col. 10, line 25-60).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination and a second user, as taught by Hutton in the system of Berken, so that it would provide exchanging realtime voice/video IP packet with IP address between two end units via Internet; see Hutton col. 1, line 50-65; also by utilization destination information, it enable the caller to route the voice packets to the callee.

Neither Berken nor Hutton explicitly discloses the first digital voice data is “not transmission when representative of audio signals below a predetermined threshold level”.

However, Reimer discloses the first digital voice data is not packetized for transmission when representative of audio signals below a predetermined threshold level (see FIG. 5, Steeps

52,54,55,58; speech digital data is not framed/packetized for transmission by waiting when speech signal is lower than predetermined threshold; see 6, line 10-32).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide “not transmission when representative of audio signals below a predetermined threshold level” as taught by Reimer, in the combined system of Berken and Hutton, so that it would provide capability to detect non-zero zero-crossing frames as suggested by Reimer; see Reimer col. 6, line 10-30.

**Regarding Claims 61 and 62**, Hutton discloses wherein the wireless packet network uses an Internet Protocol (IP), wherein IP protocol is TCP/IP (see col. 3, line 55-60; col. 2, line 60-67; see col. 5, line 1-10; utilizing TCP/IP in wireless network).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide TCP/IP, as taught by Hutton in the system of Berken, so that it would provide exchanging realtime voice/video IP packet with IP address between two end units via Internet; see Hutton col. 1, line 50-65.

**Regarding Claim 68**, Berken disclose a frequency hopping spread spectrum technique (see page 11, line 20-31; frequency hopping system of spread spectrum coding).

**Regarding Claim 69**, Berken disclose a direct sequence spread spectrum technique (see page 11, line 20-31; direct sequence spread spectrum coding).

**Regarding Claim 70**, Berken disclose wherein the at least one processor (see FIG. 1A, C; a combined system of processor 215, switch 213, phone 209) is further operable to cause routing of digital voice data packets over a wired network (see page 9, line 1-10; see page 10,

line 17-30; the combined system of 215, 213 and 209 routes/forwards voice packets over PSTN, Ethernet LAN, or Token Ring LAN).

**Regarding Claim 71**, Berken disclose wherein the routing of a call is selected by the first user (see FIG. 1A,C; a user enters/selects (from user input terminals 169,165 or 127) destination address/number (i.e. the routing of a call) in order to establish the call/connection; see page 9, line 1-10; see page 10, line 17-30).

**Regarding Claim 72**, Berken disclose the wired network comprises a packet network (see FIG. 1A, see page 9, line 1-10; see page 10, line 17-30; Ethernet LAN, or Token Ring LAN).

**Regarding Claims 73**, Berken discloses the wired network is a conventional switched telephone network (see FIG. 1A, PSTN 151; see page 9, line 1-10; see page 10, line 17-30).

12. Claims 63-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Hutton, and further in view of Lewen (US005341374A).

**Regarding Claim 63**, the combine system of Berken and Hutton discloses wherein the at least one processor received digital voice data and conversion of digital voice data as set forth above in claim 60.

Neither Berken nor Hutton explicitly discloses queues received data and delays conversion of queued data for an adjustable period of time.

However, Lewen teaches queuing (see FIG. 4, queuing/storing/collecting common memory 80) received digital voice data (see FIG. 2, collect received samples 120; see col. 14, line 44-49) and delays conversion of queued digital voice data for an adjustable period of time

(see FIG. 2, delay time for storing/collecting voice samples in the memory before packetizing is adjusted between  $T_w$  (walktime) up to  $T_{bfr}$  (buffer storage time)); see col. 15, line 5-9, 15-30.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to queue received data and delays conversion of queued data for an adjustable period of time, as taught by Lewen in the combined system of Berken and Hutton, so that it would provision a communication system which effectively provides integrated voice, data and video communication and also provide real time reception of voice communication; see Lewen col. 2, line 50-62.

**Regarding Claim 64**, Lewen further discloses adjusts the period of time based upon a network propagation delay (see col. 13, line 56-66; see col. 14, line 22-39; see col. 15, line 5-9, 15-30; adjusting delay time according  $T_w$  (propagation delay)). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the period of time based upon a network propagation delay, as taught by Lewen in the combined system of Berken and Hutton, for the same motivation as set forth above in claim 63.

**Regarding Claim 65**, Lewen further discloses adjustable period of time using a packet sent to the communication device in response to a packet sent by the communication device (see col. 13, line 56-66; see col. 14, line 22-39; see col. 15, line 5-9, 15-30; adjusting delay time according  $T_w$  (propagation delay), which is a time required for a signal bit of a frame/packet to travel from transmitting node to receive node). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide adjustable period of time using a packet sent to the communication device in response to a packet sent by the

communication device, as taught by Lewen in the combined system of Berken and Hutton, for the same motivation as set forth above in claim 63.

13. Claim 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Hutton and Lewen, and further in view of McKee (US005477531A).

**Regarding Claim 80**, neither Berken, Hutton nor Lewen explicitly disclose a test packet. However, McKee discloses determining propagation delay or queuing delay by utilizing in response to test packet sent by the communication device (see FIG. 2, test packet; see col. 1, line 60 to col. 2, line 60).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a test packet, as taught by McKee, in the combined system of Berken, Hutton and Lewen, so that it would provide to determine/test propagation delay or queuing delay; see McKee abstract col. 2, line 20-32.

14. Claim 67 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Hutton, and further in view of Cripps (US005838730A).

**Regarding Claim 67**, Berken disclose a frequency hopping spread spectrum technique (see page 11, line 20-31; frequency hoping system of spread spectrum coding).

Berken does not explicitly disclose a frequency of approximately 2.4 gigahertz. However, using 2.4 GHz frequency hopping is well known in the art as defined by FCC. In particular, Cripps discloses wherein the wireless packet network communicates at a frequency of approximately 2.4 gigahertz (abstract; see col. 2, line 13-20; see col. 36, line 32-45; 2.4 GHz).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide 2.4 GHz, as taught by Cripps, in the combined system of Berken and Hutton, so that it would provide a transmitter/receiver in accordance with FCC rules for 2.4 GHz ISM which is low cost and low power; see Cripps col. 2, line 15-32.

**Original Rejection**

15. Claims 22,27-29,32,35,36,39,42,47,50,51 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver (US005956673A) in view of Richter (US006104706A).

**Regarding Claims 22,28,29,36 and 47**, Weaver discloses a system (see FIG. 2, Remote unit 10) for processing voice for communication (see FIG. 1, remote vocoder 15) over a network (see FIG. 2, Wireless network 20) comprising:

conversion circuitry (see FIG. 1, Encoder 180 and Decoder 90) for converting analog voice signals to digital voice data (see FIG. 1, Encoder 180 performs A/D conversion) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1, Decoder 90 performs D/A conversion; see col. 3, line 25-40; col. 4, line 40-59);

a processing circuit (see FIG. 1, Encoder 180 and Decoder 90) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1, Encoder 180 performs packetizing) and for managing the depacketization of digital voice data (see FIG. 1, Decoder 90 decodes packets into digital voice), the processing circuit packetizing the digital voice data according to a packet protocol (see col. 3, line 20-40; col. 4, line 20-39, 40-67; see col. 5, line 34-67; packetizing according to a packet protocol); and

a transceiver circuit (see FIG. 2, Transceiver in a remote unit 10) for wireless transmission and wireless reception according to a wireless communication protocol of the digital voice data packets (see col. 4, line 40-67; transmitting over wireless link according to wireless protocol), wherein the digital voice data packets comprises information used for routing the digital voice data packets (see FIG. 3,4,9; voice packets comprise control/signaling information for routing voice data packets; see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65; FIG. 1, discloses the digital voice packets are being routed over the network. FIG. 3, PCM signaling/control information which is used for routing the digital voice packets. FIG. 4, PCM signaling/control information (PCM 290,292) used for routing the digital voice packets (Vocoded packets 294); see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65).

Weaver does not explicitly disclose “destination information”.

However, it is well known in the art when forming and routing packets/frames over the network to remote end/destination, one must use destination address/number/information to route. In particular, Richter teaches wherein the digital voice packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see col. 6, line 60 to col. 7, line 20) the digital voice packets through the communication network (see FIG. 5, for routing voice packets over the network between two callers; see col. 5, line 36-66; col. 6, line 44-56).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination, as taught by Richter and well established teaching in art in the system of Weaver, so that it would provide capability to the caller and callee to hear



each other; see Richter col. 7, line 10-19, and it would also identify and locate the recipient of the voice data packet.

**Regarding Claim 51**, Weaver discloses a system (see FIG. 2, Remote unit 10) for processing voice for communication (see FIG. 1, remote vocoder 15) over a network (see FIG. 2, Wireless network 20) comprising:

a processing circuit (see FIG. 1, Encoder 180 and Decoder 90) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1, Encoder 180 performs packetizing) and for managing the depacketization of digital voice data (see FIG. 1, Decoder 90 decodes packets into digital voice), wherein the digital voice data packets comprises information used for routing the digital voice data packets (see FIG. 3,4,9; voice packets comprise control/signaling information; see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65; FIG. 1, discloses the digital voice packets are being routed over the network. FIG. 3, PCM signaling/control information which is used for routing the digital voice packets. FIG. 4, PCM signaling/control information (PCM 290,292) used for routing the digital voice packets (Vocoded packets 294); see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65), the processing circuit packetizing the digital voice data according to a packet protocol (see col. 3, line 20-40; col. 4, line 20-39, 40-67; see col. 5, line 34-67; packetizing according to a packet protocol); and

a radio for wireless transmission and reception of digital voice data packets (see FIG. 2, Radio Transceiver in a remote unit 10; see col. 4, line 40-67) and

a processor (see FIG. 1, Encoder 180) for controlling the operation of the radio according to a communication protocol that accommodates a plurality of data rates (see col. 1, line 25-37;

see col. 5, line 55-59; see col. 9, line 33-34; plurality of data rates) including at least a standard data rate and a higher data rate (see col. 1, line 25-37; see col. 6, line 13-25; see col. 9, line 33-35; low or less than full (i.e. half or quarter) data rate and full data rate).

Weaver does not explicitly disclose destination information.

However, it is well known in the art when forming and routing packets/frames over the network to remote end/destination, one must use destination address/number/information to route. In particular, Richter teaches wherein the digital voice packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see col. 6, line 60 to col. 7, line 20) the digital voice packets through the communication network (see FIG. 5, for routing voice packets over the network between two callers; see col. 5, line 36-66; col. 6, line 44-56).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination, as taught by Richter and well established teaching in art in the system of Weaver, so that it would provide capability to the caller and callee to hear each other; see Richter col. 7, line 10-19, and it would also identify and locate the recipient of the voice data packet.

**Regarding Claims 27,35,42,** Weaver discloses wireless transmission and reception of digital voice data packets/transceiver utilizes a communication protocol that accommodates a plurality of data rates (see FIG. 1, Encoder 180; see col. 1, line 25-37; see col. 5, line 55-59; see col. 9, line 33-34; plurality of data rates) including at least a standard data rate and a higher data rate (see col. 1, line 25-37; see col. 6, line 13-25; see col. 9, line 33-35; low or less than full (i.e. half or quarter) data rate and full data rate).

**Regarding Claims 32,39,50,54,** Weaver discloses conversion circuitry (see FIG. 1, Encoder 180 and Decoder 90) for converting analog voice signals to digital voice data (see FIG. 1, Encoder 180 performs A/D conversion) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1, Decoder 90 performs D/A conversion; see col. 3, line 25-40; col. 4, line 40-59).

16. Claims 23,24,30,31,37,38,48,49,52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver in view of Richter, as applied to claims 22,29,36,47,51 above, and further in view of Perkins (US005159592A).

**Regarding Claims 23, 24, 30,31,37,38,48,49,52, and 53,** neither Weaver nor Richter explicitly discloses an Internet Protocol (IP), wherein IP protocol is TCP/IP. However, Perkins discloses wherein the wireless packet network uses an Internet Protocol (IP), wherein IP protocol is TCP/IP (see col. 4, line 10-20; see col. 7, line 35-56; col. 8, line 30-45; mobile unit 10 and access gateway utilizing TCP/IP).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide TCP/IP, as taught by Perkins, in the combined system of Weaver and Richter, so that it would provide wireless migration users to a network operating in accordance with the TCP/IP protocol; see Perkins col. 2, line 55-60; see col. 3, line 15-30.

17. Claims 43 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver (US005956673A) in view of Harrison (US 5,796,727).

**Regarding Claim 43**, Weaver discloses a system (see FIG. 2, Remote unit 10) for processing voice for communication (see FIG. 1, remote vocoder 15) over a network (see FIG. 2, Wireless network 20) comprising:

a processing circuit (see FIG. 1, Encoder 180 and Decoder 90) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1, Encoder 180 performs packetizing) and for managing the depacketization of digital voice data (see FIG. 1, Decoder 90 decodes packets into digital voice), the processing circuit packetizing the digital voice data according to a packet protocol (see col. 3, line 20-40; col. 4, line 20-39, 40-67; see col. 5, line 34-67; packetizing according to a packet protocol); wherein the digital voice data packets comprises information used for routing the digital voice data packets (see FIG. 3,4,9; voice packets comprise control/signaling information; see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65; FIG. 1, discloses the digital voice packets are being routed over the network. FIG. 3, PCM signaling/control information which is used for routing the digital voice packets. FIG. 4, PCM signaling/control information (PCM 290,292) used for routing the digital voice packets (Vocoded packets 294); see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65);

a transceiver circuit (see FIG. 2, Transceiver in a remote unit 10) for wireless transmission and wireless reception according to a wireless communication protocol of the digital voice data packets (see col. 4, line 40-67; transmitting over wireless link according to wireless protocol).

Weaver does not explicitly disclose “destination information and a media access controller for controlling operation”.

However, Harrison teaches wherein the digital voice packets (see col. 4, line 45-49; 65 to col. 5, line 7; packets of voice data) comprise destination information used for routing the outgoing digital voice packets (see FIG. 5; MS adding destination address into packet for routing through network (see FIG. 1); see col. 6, line 5-12; see col. 7, line 35 to col. 8, line 15; see col.12, line 39 to col. 13, line 11);

a media access controller (see col. 5, line 25-31; MAC) for controlling the operation of the transceiver to transmit and receive information according to a wireless communication protocol (see col. 12, line 39-61; MAC controls/process transmit and receive information according to IEEE wireless protocol). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination information and MAC, as taught by Harrison in the system of Weaver, so that it would ensure to establish and route the packets of voice data to destination end user, provide various classes of data communication services as well as voices services, and provide registration and channel/bandwidth allocation; see Harrison col. 3, line 22-26; see col. 4, line 50-55; see col. 7, line 35-55.

**Regarding Claim 46,** Weaver discloses conversion circuitry (see FIG. 1, Encoder 180 and Decoder 90) for converting analog voice signals to digital voice data (see FIG. 1, Encoder 180 performs A/D conversion) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1, Decoder 90 performs D/A conversion; see col. 3, line 25-40; col. 4, line 40-59).

18. Claims 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver in view of Harrison, as applied to claim 43 above, and further in view of Perkins (US005159592A).

**Regarding Claims 44 and 45**, neither Weaver nor Harrison explicitly discloses an Internet Protocol (IP), wherein IP protocol is TCP/IP. However, Perkins discloses wherein the wireless packet network uses an Internet Protocol (IP), wherein IP protocol is TCP/IP (see col. 4, line 10-20; see col. 7, line 35-56; col. 8, line 30-45; mobile unit 10 and access gateway utilizing TCP/IP).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide TCP/IP, as taught by Perkins, in the combined system of Weaver and Harrison, so that it would provide wireless migration users to a network operating in accordance with the TCP/IP protocol; see Perkins col. 2, line 55-60; see col. 3, line 15-30.

19. Claims 25,33,40, and 55-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver in view of Richter, as applied to claims 22,29,36,47 above, and further in view of Cripps (US005838730A).

**Regarding Claims 25, 33,40,57,58 and 59**, neither Weaver nor Richter explicitly discloses a frequency hopping spread spectrum protocol. However, using frequency hopping spread spectrum protocol is well known in the art. In particular, However, Cripps discloses wherein the wireless packet network communicates frequency hopping spectrum protocol (abstract; see col. 2, line 13-20; see col. 36, line 32-45; 2.4 GHz).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide frequency hopping spread spectrum protocol with 2.4 GHz, as taught by Cripps, in the combined system of Weaver and Richter, so that it would provide a transmitter/receiver in accordance with FCC rules to support frequency hopping spread spectrum 2.4 GHz ISM which is low cost and low power; see Cripps col. 2, line 15-32.

**Regarding Claims 55 and 56**, neither Weaver nor Richter explicitly discloses a radio comprises a 2.4 gigahertz, wherein the radio operates in accordance with a frequency hopping spread spectrum protocol. However, using 2.4 GHz frequency hopping is well known in the art as defined by FCC. In particular, Cripps discloses disclose a radio comprises a 2.4 gigahertz, wherein the radio operates in accordance with a frequency hopping spread spectrum protocol (abstract; see col. 2, line 13-20; see col. 36, line 32-45; 2.4 GHz).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide 2.4 GHz frequency hopping protocol, as taught by Cripps, in the combined system of Weaver and Richter, so that it would provide a transmitter/receiver in accordance with FCC rules for 2.4 GHz ISM which is low cost and low power; see Cripps col. 2, line 15-32.

20. Claims 26,34, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver in view of Richter, as applied to claims 22,32,52 above, and further in view of Honing (US005481533A).

**Regarding Claims 26, 34, and 41**, neither Weaver nor Richter explicitly discloses a direct sequence spread spectrum technique. However, using direct sequence spread spectrum

technique is well known in the art. In particular, Honing discloses wherein the wireless packet network communicates using a direct sequence spread spectrum technique (abstract; see col. 2, line 34-40).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide direct sequence spread spectrum technique, as taught by Honing, in the combined system of Weaver and Richter, so that it would suppress interference; see Honing col. 2, line 38, line 38-40.

21. Claims 22, 28, 29, 36 and 47 rejected under 35 U.S.C. 103(a) as being unpatentable over Berken (WO 91/08629) in view of Shachar (U.S. 5,764,736).

**Regarding Claims 22, 28, 29, 36 and 47,** Berken discloses a system for processing voice for communication over a network (see FIG. 1A, wireless telecommunication system for voice and data communication; see page 4, line 6-9) comprising:

conversion circuitry (see FIG. 1C, phone interface 209) for converting analog voice signals to digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice packets; see page 6, line 16-20) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1C, phone interface 209 converts received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5);

a processing circuit (see FIG. 1C, a combined system of processor 215, switch 213, phone 209) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1C, a combined system 215,213,209 controls/manages converting of voice data



to digital voice packets; see page 6, line 5-20) and for managing the depacketization of digital voice data (see FIG. 1C, a combined system 215,213,209 controls/manages converting of received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5), the processing circuit packetizing the digital voice data according to a packet protocol (see FIG. 1C, a combined system 215,213,209 converting voice data in accordance with packet protocol/rule for transmission; see page 6, line 16-20); and

a transceiver circuit for wireless transmission and wireless reception (see FIG. 1A, C, Radio interface 211 circuitry/module which perform both transmitter and receiver functionalities) according to a wireless communication protocol of the digital voice data packets (FIG. 1C, see page 6, line 14-20; radio interface 211 of a user module 103 communicates by utilizing packet protocol/practice/procedure/rules), wherein the digital voice data packets comprises information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header of the voice time slot) used for routing the digital voice data packets (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises control information for routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises control information routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN).

Berken does not explicitly disclose “destination”.

However, voice packet comprising destination information for routing is so well known in the art so that it would identify and locate the recipient of the voice data packet. In particular,

However, voice packet comprising destination information for routing is so well known in the art so that it would identify and locate the recipient of the voice data packet. In particular,

Shachar teaches wherein digital voice packets (see col. 8, line 32-39; voice packet) comprise destination information used for routing the digital voice packets through the communication network (see col. 12, line 1-20, 50-57; adding a service tag to the voice packet, the service tag includes the phone number to be call (i.e. destination phone information/number) for routing/transmitting/sending to the network).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide “destination”, as taught by Shachar and well established teaching in art in the system of Berken, so that it would provide simultaneous establishing of voice communication; see Shachar col. 5, line 15-30, col. 6, line 42-55.

22. Claim 22,25,26,28,29,32-34,36,39,40,41,47,50, and 57-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken (WO 91/08629) in view of Richter'979 (WO 94/29979).

**Regarding Claims 22, 28, 29, 36 and 47**, Berken discloses a system for processing voice for communication over a network (see FIG. 1A, wireless telecommunication system for voice and data communication; see page 4, line 6-9) comprising:

conversion circuitry (see FIG. 1C, phone interface 209) for converting analog voice signals to digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice packets; see page 6, line 16-20) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1C, phone interface 209 converts received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5);

a processing circuit (see FIG. 1C, a combined system of processor 215, switch 213, phone 209) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1C, a combined system 215,213,209 controls/manages converting of voice data to digital voice packets; see page 6, line 5-20) and for managing the depacketization of digital voice data (see FIG. 1C, a combined system 215,213,209 controls/manages converting of received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5), the processing circuit packetizing the digital voice data according to a packet protocol (see FIG. 1C, a combined system 215,213,209 converting voice data in accordance with packet protocol/rule for transmission; see page 6, line 16-20); and

a transceiver circuit for wireless transmission and wireless reception (see FIG. 1A, C, Radio interface 211 circuitry/module which perform both transmitter and receiver functionalities) according to a wireless communication protocol of the digital voice data packets (FIG. 1C, see page 6, line 14-20; radio interface 211 of a user module 103 communicates by utilizing packet protocol/practice/procedure/rules), wherein the digital voice data packets comprises information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header of the voice time slot) used for routing the digital voice data packets (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises control information for routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises control information routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN).

Berken does not explicitly disclose “destination”.

However, voice packet comprising destination information for routing is so well known in the art so that it would identify and locate the recipient of the voice data packet. In particular, Richter'979 teaches wherein the digital voice data packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see page 15, paragraph 3 to page 17, paragraph 1) the digital voice packets through the communication network (see FIG. 5, for routing voice packets over the network between two callers; see page 13, paragraph 1-2; see page 14, paragraph 1; see page 15, paragraph 3 to page 16, paragraph 1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination, as taught by Berken and well established teaching in art in the system of Berken, so that it would provide capability to the caller and callee to hear each other; see Richter'979 page 17, paragraph 1, and it would also identify and locate the recipient of the voice data packet.

**Regarding Claims 25, 33,40,57,58 and 59**, Berken disclose a frequency hopping spread spectrum technique (see page 11, line 20-31; frequency hoping system of spread spectrum coding).

**Regarding Claims 26, 34, and 41**, Berken disclose a direct sequence spread spectrum technique (see page 11, line 20-31; direct sequence spread spectrum coding).

**Regarding Claims 32,39,50**, Berken discloses conversion circuitry for converting analog voice signals to digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice packets for radio transmission; see page 6, line 16-20) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG.

1C, phone interface 209 converts digitized voice packets received from radio interface back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5).

23. Claim 27,35,42,51 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Richter'979, and further in view of Weaver (US005956673A).

**Regarding Claim 51**, Berken discloses a system for processing voice for communication over a network (see FIG. 1A, wireless telecommunication system for voice communication; see page 4, line 6-9) comprising:

a processing circuit (see FIG. 1C, a combined system of processor 215, switch 213, phone 209) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1C, a combined system 215,213,209 controls/manages converting of voice data to digital voice packets; see page 6, line 6-20) and for managing the depacketization of digital voice data (see FIG. 1C, a combined system 215,213,209 controls/manages converting of received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5), wherein the digital voice data packets comprises destination information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header of the voice time slot) used for routing the digital voice data packets (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises routing/forwarding information through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises routing/forwarding information through PSTN, Ethernet LAN, or Token Ring LAN), the processing circuit packetizing the digital voice data according to a packet protocol (see FIG.

1C, a combined system 215,213,209 converting voice data in accordance with packet protocol/rule for transmission; see page 6, line 16-20); and

a radio for wireless transmission and reception (see FIG. 1A, C, Radio interface 211 circuitry/module which perform both transmitter and receiver functionalities) of digital voice data packets (FIG. 1C, see page 6, line 14-20; radio interface 211 of a user module 103 communicates by utilizing packet protocol/practice/procedure/rules) and

a processor (see FIG. 1C, processor 215) for controlling the operation of the radio according to a communication protocol (see FIG. 1A, controls/manage a radio transmission according to a radio protocol (i.e. TDMA); see page 10, line 23-33 for voice packet in PSTN or data packet in Ethernet LAN, or Token Ring LAN; see page 6, line 5 to page 8, line 4) that accommodates a plurality of bandwidth (see page 10, line 4 to col. 11, line 15; radio protocol provides different bandwidth for different services/data type).

Berken does not explicitly disclose “destination”.

However, voice packet comprising destination information for routing is so well known in the art so that it would identify and locate the recipient of the voice data packet. In particular, Richter'979 teaches wherein the digital voice data packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see page 15, paragraph 3 to page 17, paragraph 1) the digital voice packets through the communication network (see FIG. 5, for routing voice packets over the network between two callers; see page 13, paragraph 1-2 to page 14, paragraph 1; see page 15, paragraph 3 to page 16, paragraph 1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination, as taught by Berken and well established teaching in art in the system of Berken, so that it would provide capability to the caller and callee to hear each other; see Richter'979 page 17, paragraph 1, and it would also identify and locate the recipient of the voice data packet.

Neither Berken nor Richter'979 explicitly discloses “data rates including at least a standard data rate and a higher data rate”.

Weaver discloses a processor (see FIG. 1, Encoder 180) for controlling the operation of the radio according to a communication protocol that accommodates a plurality of data rates (see col. 1, line 25-37; see col. 5, line 55-59; see col. 9, line 33-34; plurality of data rates) including at least a standard data rate and a higher data rate (see col. 1, line 25-37; see col. 6, line 13-25; see col. 9, line 33-35; low or less than full (i.e. half or quarter) data rate and full data rate).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide data rates including at least a standard data rate and a higher data rate, as taught by Weaver in the combined system of Berken and Richter'979, so that it would provide avoid the disadvantage of tandem vocoding; see Weaver col. 1, line 60-67.

**Regarding Claims 27, 35, 42,** Berken discloses wireless transmission and reception of digital voice data packets/transceiver utilizes a communication protocol (see FIG. 1A, controls/manage a radio transmission according to a radio protocol (i.e. TDMA); see page 10, line 23-33 for voice packet in PSTN or data packet in Ethernet LAN, or Token Ring LAN; see page 6, line 5 to page 8, line 4) that accommodates a plurality of bandwidth (see page 10, line 4 to col. 11, line 15; radio protocol provides different bandwidth for different services/data type).

Neither Berken nor Richter'979 explicitly discloses “data rates including at least a standard data rate and a higher data rate”.

However, Weaver discloses a processor (see FIG. 1, Encoder 180) for controlling the operation of the radio according to a communication protocol that accommodates a plurality of data rates (see col. 1, line 25-37; see col. 5, line 55-59; see col. 9, line 33-34; plurality of data rates) including at least a standard data rate and a higher data rate (see col. 1, line 25-37; see col. 6, line 13-25; see col. 9, line 33-35; low or less than full (i.e. half or quarter) data rate and full data rate).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide data rates including at least a standard data rate and a higher data rate, as taught by Weaver in the combined system of Berken and Richter'979, so that it would provide avoid the disadvantage of tandem vocoding; see Weaver col. 1, line 60-67.

**Regarding Claim 54,** Berken discloses conversion circuitry for converting analog voice signals to digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice packets for radio transmission; see page 6, line 16-20) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1C, phone interface 209 converts digitized voice packets received from radio interface back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5).

24. Claims 23,24,30,31,37,38,48,49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Richter'979, and further in view of Perkins (US005159592A).



**Regarding Claims 23, 24,30,31,37,38,48,49**, neither Berken nor Richter'979 explicitly discloses an Internet Protocol (IP), wherein IP protocol is TCP/IP. However, Perkins discloses wherein the wireless packet network uses an Internet Protocol (IP), wherein IP protocol is TCP/IP (see col. 4, line 10-20; see col. 7, line 35-56; col. 8, line 30-45; mobile unit 10 and access gateway utilizing TCP/IP).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide TCP/IP, as taught by Perkins, in the combined system of Berken and Richter'979, so that it would provide wireless migration users to a network operating in accordance with the TCP/IP protocol; see Perkins col. 2, line 55-60; see col. 3, line 15-30.

25. Claims 52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Richter'979 and Weaver, and further in view of Perkins (US005159592A).

**Regarding Claims 52 and 53**, neither Berken, Richter'979 nor Weaver explicitly discloses an Internet Protocol (IP), wherein IP protocol is TCP/IP. However, Perkins discloses wherein the wireless packet network uses an Internet Protocol (IP), wherein IP protocol is TCP/IP (see col. 4, line 10-20; see col. 7, line 35-56; col. 8, line 30-45; mobile unit 10 and access gateway utilizing TCP/IP).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide TCP/IP, as taught by Perkins, in the combined system of Berken, Richter'979 and Weaver, so that it would provide wireless migration users to a network operating in accordance with the TCP/IP protocol; see Perkins col. 2, line 55-60; see col. 3, line 15-30.

26. Claims 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken and Richter'979, and further in view of Cripps (US005838730A).

**Regarding Claims 55 and 56**, Berken disclose a frequency hopping spread spectrum technique (see page 11, line 20-31; frequency hopping system of spread spectrum coding).

Berken does not explicitly disclose a frequency of approximately 2.4 gigahertz.

However, using 2.4 GHz frequency hopping is well known in the art as defined by FCC. In particular, Cripps discloses wherein the wireless packet network communicates at a frequency of approximately 2.4 gigahertz (abstract; see col. 2, line 13-20; see col. 36, line 32-45; 2.4 GHz).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide 2.4 GHz, as taught by Cripps, in the combined system of Berken and Richter'979, so that it would provide a transmitter/receiver in accordance with FCC rules for 2.4 GHz ISM which is low cost and low power; see Cripps col. 2, line 15-32.

#### **Original Rejection**

27. Claims 22,27-29,32,35,36,39,42,47,50,51 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver (US005956673A) in view of Richter'979 (WO 94/29979).

**Regarding Claims 22,28,29,36 and 47**, Weaver discloses a system (see FIG. 2, Remote unit 10) for processing voice for communication (see FIG. 1, remote vocoder 15) over a network (see FIG. 2, Wireless network 20) comprising:

conversion circuitry (see FIG. 1, Encoder 180 and Decoder 90) for converting analog voice signals to digital voice data (see FIG. 1, Encoder 180 performs A/D conversion) and for

converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1, Decoder 90 performs D/A conversion; see col. 3, line 25-40; col. 4, line 40-59);

a processing circuit (see FIG. 1, Encoder 180 and Decoder 90) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1, Encoder 180 performs packetizing) and for managing the depacketization of digital voice data (see FIG. 1, Decoder 90 decodes packets into digital voice), the processing circuit packetizing the digital voice data according to a packet protocol (see col. 3, line 20-40; col. 4, line 20-39, 40-67; see col. 5, line 34-67; packetizing according to a packet protocol); and

a transceiver circuit (see FIG. 2, Transceiver in a remote unit 10) for wireless transmission and wireless reception according to a wireless communication protocol of the digital voice data packets (see col. 4, line 40-67; transmitting over wireless link according to wireless protocol), wherein the digital voice data packets comprises information used for routing the digital voice data packets (see FIG. 3,4,9; voice packets comprise control/signaling information for routing voice data packets; see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65).

Weaver does not explicitly disclose “destination information”.

However, it is well known in the art when forming and routing packets/frames over the network to remote end/destination, one must use destination address/number/information to route. In particular, Richter'979 teaches wherein the digital voice packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see page 15, paragraph 3 to page 17, paragraph 1) the digital voice packets through the communication network (see FIG. 5,

for routing voice packets over the network between two callers; see page 13, paragraph 1-2; see page 14, paragraph 1; see page 15, paragraph 3 to page 16, paragraph 1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination, as taught by Richter'979 and well established teaching in art in the system of Weaver, so that it would provide capability to the caller and callee to hear each other; see Richter'979 page 17, paragraph 1, and it would also identify and locate the recipient of the voice data packet.

**Regarding Claim 51**, Weaver discloses a system (see FIG. 2, Remote unit 10) for processing voice for communication (see FIG. 1, remote vocoder 15) over a network (see FIG. 2, Wireless network 20) comprising:

a processing circuit (see FIG. 1, Encoder 180 and Decoder 90) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1, Encoder 180 performs packetizing) and for managing the depacketization of digital voice data (see FIG. 1, Decoder 90 decodes packets into digital voice), wherein the digital voice data packets comprises information used for routing the digital voice data packets (see FIG. 3,4,9; voice packets comprise control/signaling information; see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65), the processing circuit packetizing the digital voice data according to a packet protocol (see col. 3, line 20-40; col. 4, line 20-39, 40-67; see col. 5, line 34-67; packetizing according to a packet protocol); and

a radio for wireless transmission and reception of digital voice data packets (see FIG. 2, Radio Transceiver in a remote unit 10; see col. 4, line 40-67) and

a processor (see FIG. 1, Encoder 180) for controlling the operation of the radio according to a communication protocol that accommodates a plurality of data rates (see col. 1, line 25-37; see col. 5, line 55-59; see col. 9, line 33-34; plurality of data rates) including at least a standard data rate and a higher data rate (see col. 1, line 25-37; see col. 6, line 13-25; see col. 9, line 33-35; low or less than full (i.e. half or quarter) data rate and full data rate).

Weaver does not explicitly disclose “destination” information.

However, it is well known in the art when forming and routing packets/frames over the network to remote end/destination, one must use destination address/number/information to route. In particular, Richter'979 teaches wherein the digital voice packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see page 15, paragraph 3 to page 17, paragraph 1) the digital voice packets through the communication network (see FIG. 5, for routing voice packets over the network between two callers; see page 13, paragraph 1-2; see page 14, paragraph 1; see page 15, paragraph 3 to page 16, paragraph 1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination, as taught by Richter and well established teaching in art in the system of Weaver, so that it would provide capability to the caller and callee to hear each other; see Richter'979 page 17, paragraph 1, and it would also identify and locate the recipient of the voice data packet.

**Regarding Claims 27, 35, 42,** Weaver discloses wireless transmission and reception of digital voice data packets/transceiver utilizes a communication protocol that accommodates a plurality of data rates (see FIG. 1, Encoder 180; see col. 1, line 25-37; see col. 5, line 55-59; see

col. 9, line 33-34; plurality of data rates) including at least a standard data rate and a higher data rate (see col. 1, line 25-37; see col. 6, line 13-25; see col. 9, line 33-35; low or less than full (i.e. half or quarter) data rate and full data rate).

**Regarding Claims 32,39,50,54,** Weaver discloses conversion circuitry (see FIG. 1, Encoder 180 and Decoder 90) for converting analog voice signals to digital voice data (see FIG. 1, Encoder 180 performs A/D conversion) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1, Decoder 90 performs D/A conversion; see col. 3, line 25-40; col. 4, line 40-59).

28. Claims 23,24,30,31,37,38,48,49,52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver in view of Richter'979, as applied to claims set forth above, and further in view of Perkins (US005159592A).

**Regarding Claims 23, 24, 30,31,37,38,48,49,52, and 53,** neither Weaver nor Richter'979 explicitly discloses an Internet Protocol (IP), wherein IP protocol is TCP/IP.

However, Perkins discloses wherein the wireless packet network uses an Internet Protocol (IP), wherein IP protocol is TCP/IP (see col. 4, line 10-20; see col. 7, line 35-56; col. 8, line 30-45; mobile unit 10 and access gateway utilizing TCP/IP).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide TCP/IP, as taught by Perkins, in the combined system of Weaver and Richter'979, so that it would provide wireless migration users to a network operating in accordance with the TCP/IP protocol; see Perkins col. 2, line 55-60; see col. 3, line 15-30.

29. Claims 25,33,40, and 55-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver in view of Richter'979, as applied to claims 22,29,36,47 above, and further in view of Cripps (US005838730A).

**Regarding Claims 25, 33,40,57,58 and 59**, neither Weaver nor Richter'979 explicitly discloses a frequency hopping spread spectrum protocol.

However, using frequency hopping spread spectrum protocol is well known in the art. In particular, Cripps discloses wherein the wireless packet network communicates frequency hopping spectrum protocol (abstract; see col. 2, line 13-20; see col. 36, line 32-45; 2.4 GHz).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide frequency hopping spread spectrum protocol with 2.4 GHz, as taught by Cripps, in the combined system of Weaver and Richter'979, so that it would provide a transmitter/receiver in accordance with FCC rules to support frequency hopping spread spectrum 2.4 GHz ISM which is low cost and low power; see Cripps col. 2, line 15-32.

**Regarding Claims 55 and 56**, neither Weaver nor Richter'979 explicitly discloses a radio comprises a 2.4 gigahertz, wherein the radio operates in accordance with a frequency hopping spread spectrum protocol. However, using 2.4 GHz frequency hopping is well known in the art as defined by FCC. In particular, Cripps discloses disclose a radio comprises a 2.4 gigahertz, wherein the radio operates in accordance with a frequency hopping spread spectrum protocol (abstract; see col. 2, line 13-20; see col. 36, line 32-45; 2.4 GHz).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide 2.4 GHz frequency hopping protocol, as taught by Cripps, in

the combined system of Weaver and Richter'979, so that it would provide a transmitter/receiver in accordance with FCC rules for 2.4 GHz ISM which is low cost and low power; see Cripps col. 2, line 15-32.

30. Claims 26,34, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver in view of Richter'979, as applied to claims 22,32,52 above, and further in view of Honing (US005481533A).

**Regarding Claims 26, 34, and 41**, neither Weaver nor Richter'979 explicitly discloses a direct sequence spread spectrum technique.

However, using direct sequence spread spectrum technique is well known in the art. In particular, Honing discloses wherein the wireless packet network communicates using a direct sequence spread spectrum technique (abstract; see col. 2, line 34-40).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide direct sequence spread spectrum technique, as taught by Honing, in the combined system of Weaver and Richter'979, so that it would suppress interference; see Honing col. 2, line 38, line 38-40.

31. Claims 22, 28, 29, 36 and 47 rejected under 35 U.S.C. 103(a) as being unpatentable over Berken (WO 91/08629) in view of Shachar (U.S. 5,764,736).

**Regarding Claims 22, 28, 29, 36 and 47**, Berken discloses a system for processing voice for communication over a network (see FIG. 1A, wireless telecommunication system for voice and data communication; see page 4, line 6-9) comprising:



conversion circuitry (see FIG. 1C, phone interface 209) for converting analog voice signals to digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice packets; see page 6, line 16-20) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1C, phone interface 209 converts received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5);

a processing circuit (see FIG. 1C, a combined system of processor 215, switch 213, phone 209) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1C, a combined system 215,213,209 controls/manages converting of voice data to digital voice packets; see page 6, line 5-20) and for managing the depacketization of digital voice data (see FIG. 1C, a combined system 215,213,209 controls/manages converting of received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5), the processing circuit packetizing the digital voice data according to a packet protocol (see FIG. 1C, a combined system 215,213,209 converting voice data in accordance with packet protocol/rule for transmission; see page 6, line 16-20); and

a transceiver circuit for wireless transmission and wireless reception (see FIG. 1A, C, Radio interface 211 circuitry/module which perform both transmitter and receiver functionalities) according to a wireless communication protocol of the digital voice data packets (FIG. 1C, see page 6, line 14-20; radio interface 211 of a user module 103 communicates by utilizing packet protocol/practice/procedure/rules), wherein the digital voice data packets comprises information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header of the voice time slot) used for routing the digital voice data packets (see page 9, line 1-10; see page 10,

line 17-30; control time slot of the transmit/receive frame comprises control information for routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises control information routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN).

Berken does not explicitly disclose “destination”.

However, voice packet comprising destination information for routing is so well known in the art so that it would identify and locate the recipient of the voice data packet. In particular,

However, voice packet comprising destination information for routing is so well known in the art so that it would identify and locate the recipient of the voice data packet. In particular, Shachar teaches wherein digital voice packets (see col. 8, line 32-39; voice packet) comprise destination information used for routing the digital voice packets through the communication network (see col. 12, line 1-20, 50-57; adding a service tag to the voice packet, the service tag includes the phone number to be call (i.e. destination phone information/number) for routing/transmitting/sending to the network).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide “destination”, as taught by Shachar and well established teaching in art in the system of Berken, so that it would provide simultaneous establishing of voice communication; see Shachar col. 5, line 15-30, col. 6, line 42-55.

***Conclusion***

32. Any inquiry concerning this communication or earlier communications from the examiner should be directed to IAN N. MOORE whose telephone number is (571)272-3085. The examiner can normally be reached on 9:00 AM- 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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